REMARKS

Reconsideration and allowance are respectfully requested in light of the above amendments and the following remarks.

Claims 13 and 18 have been amended to better define the subject matter Applicants regard as the invention. The amendments could not have been presented earlier due to the unforeseeability of the Office applying the same art as applied in the Office Action dated February 13, 2004 (hereinafter Office Action), after consideration of the remarks in Applicants' Response dated April 7, 2004 (hereinafter Response). The newly added features are supported by Figs. 3-5 and their accompanying descriptions in the specification.

Entry of the amendments, after the final rejection, is warranted due to the inappropriateness of, and unsubstantiated basis for, repeating the rejections applied in the Office Action. Section 2144.08 III of the MPEP states that a determination of unpatentability should rest on all the evidence and should not be influenced by any earlier decision (emphasis in the original) (MPEP §2144.08 III, first sentence). Once an applicant has presented a rebuttal pointing out the deficiencies of the office action, the Office should reconsider any initial unpatentability determination in view of the entire record (MPEP §2144.08 III,

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third sentence). All the proposed rejections and their bases should be reviewed to confirm their correctness (MPEP §2144.08 III, fifth sentence). Only then should any rejection be imposed in an office action (MPEP §2144.08 III, sixth sentence).

Applicants submit that the Office has not reconsidered its initial determination of unpatentability in view of the entire record, including Applicants' rebuttal provided in the Response as required by MPEP §2144.08 (III), before reapplying the same rejections in the Final Rejection. The Office Action proposed that Kamerman et al. (US 5,164,942) teaches a counter that counts a predetermined time such that a switching pattern repeating period is equal to a time interleaving length (Office Action page 5, second to last paragraph). In the Response, Applicants described in detail what Kamerman actually disclosed with regard to the proposed counter features. Moreover, Applicants expressly stated that "Kamerman does not disclose or suggest anything regarding switching patterns or interleaving, much less the technique of making a repeating period of a switching pattern equal to a time interleaving length in transmission data" (Response page 7, last paragraph).

In the Final Rejection, the Office again asserts that Kamerman teaches a device that makes a repeating period of a

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switching pattern equal to a time interleaving length in transmission data (Final Rejection page 4, lines 1-3). This proposed teaching is said to be found in column 1, lines 42-50, of Kamerman's disclosure.

However, Kamerman discloses the following in the cited portion of the disclosure. Several manufacturers produce such chips, complying with the IEEE 802.3 standard (Kamerman col. 1, lines 42-43). An example is the Intel 82586 LAN coprocessor chip, available from Intel Corporation of Santa Clara, California, USA (col. 1, lines 43-46). Such chips provide various facilities useful in LANs, such as data rate range and backoff algorithm and configurable parameters such as slot time duration, retry counter offset and limit, and interframe spacing time (col. 1, lines 46-50).

As may clearly be seen by examination of the cited portion of Kamerman's disclosure, reproduced above, Kamerman does not in fact teach the features attributed to the disclosure by the Office. The phrases: (1) repeating period, (2) switching pattern, (3) time interleaving length, and (4) transmission data or any words within these phrases do no exist in the cited portion of Kamerman's disclosure, with the exception of the word "time." As a result, it is incontrovertible that Kamerman cannot

teach the feature of a repeating period of a switching pattern that is equal to a time interleaving length in transmission data, as proposed in both the Office Action and the Final Rejection.

Applicants distinctly pointed out in their Response that Kamerman did not in fact teach the features attributed to the disclosure. Applicants reemphasize these remarks here and further submit that no form of the words "interleave" or "repeat" exist in Kamerman. The fallacy of the conclusions drawn by the Office from Kamerman's disclosure is indisputable, and no reasonable basis can exist for reasserting these conclusions after the fallacy was exposed in Applicants' Response. Because the Office failed to reconsider its initial rejection in view of the entire record, including Applicant's rebuttal provided in the Response, before reapplying the same basis for the rejections in the Final Rejection, as required by MPEP §2144.08 (III), withdrawal of the finality of the rejections is warranted.

Regarding the present rejections, claims 13-16 and 18 were rejected, under 35 USC §103(a), as being unpatentable over Smith et al. (US 6,006,075) in view of Kamerman et al. (US 5,164,942). Claim 17 was rejected, under 35 USC §103(a), as being unpatentable over Smith in view of Kamerman and further in view of Fujita (US 6,128,476). To the extent these rejections may be

deemed applicable to the amended claims, Applicants respectfully

traverse.

Claims 13 recites a plurality of antennas that transmit a

plurality of transmission data according to a switching pattern.

The switching pattern defines a plurality of relationships

between the antennas and the transmission data, and a period of

repeating the switching pattern is coordinated with an

interleaving length in the transmission data. In short, a novel

feature of claim 13 is the coordination of the period of

repeating the switching pattern with the time interleave length

in the transmission data. Specifically, claim 13 recites making

a switching pattern repeating period equal to a time interleaving

length in the transmission data.

The Final Rejection acknowledges that Smith does not

disclose the feature recited in claim 13 of making a switching

pattern repeating period equal to a time interleaving length in

the transmission data (Final Rejection page 3, last paragraph).

To overcome this deficiency, the Final Rejection cites Kamerman

for teaching this feature (page 4, first paragraph). As

discussed above regarding the withdrawal of the finality of the

rejections, Kamerman does not teach this feature. For brevity,

the discussion is not repeated here but is incorporated by reference.

Accordingly, Applicants submit that Smith and Kamerman do not suggest the subject matter defined by claim 13. Therefore, allowance of claim 13 and all claims dependent therefrom is warranted.

Moreover, claim 13 now recites that the switching pattern comprises the same number of patterns as transmission data and that this switching pattern is stored in advance in a storage section. By virtue of these features, when a plurality of transmission data, obtained by dividing convolutional-coded data, are transmitted, all patterns of the transmission data and antennas are used. As a result, there is no waste of memory capacity for storing switching patterns and the effect of error randomization is improved.

By contrast to the invention defined by claim 13, Smith discloses switching pattern relationships between antennas and transmission data that are determined by reference to a history of antenna use (see Smith column 12, lines 58-67). Since these switching pattern relationships are determined by reference to the history of antenna use, it necessarily follows that they can not be stored in advance. Instead, these patterns are formed

during the course of data transmission and are dependent on the environment. As a result, Smith's switching patterns have no regularity, as may be determined by examination of Smith's Fig. 8. And given this absence of regularity, it is not possible to use these switching patterns in repetition.

Furthermore, the switching pattern defined by claim 13 includes the same number of patterns as the number of transmission data and defines relationships between the antennas and transmission data at varying points in time. The number of patterns of antennas and transmission data included in the switching pattern is fixed to the same number as the transmission data. This feature makes possible the coordination of the period of repeating the pattern with a time interleaving length in the transmission data.

Smith's switching pattern bears no similarity to the above-described switching pattern of the present invention.

Also, Smith's Fig. 1 shows an item 46 that stores switching patterns. However, item 46 is really a memory device that stores previous switching positions and previously-used carriers (see Smith col. 9, line 67, through col. 10, line 7, and col. 12, lines 6-9). In other words, Smith's memory device 46 does not store the same number of switching patterns as transmission data,

as recited in claim 13. Smith discloses nothing about storing the same number of patterns as a plurality of transmission data and nothing about storing the switching patterns in advance.

In summary, Smith does not disclose or suggest using a plurality of patterns provided in advance in the same number as a plurality of transmission data according to a time interleave length in the transmission data and switching around the transmission data between antennas.

Kamerman discloses a chip containing a configurable counter. Kamerman does not disclose or suggest anything regarding switching patterns or interleaving, much less the technique of making a repeating period of a switching pattern equal to a time interleaving length in transmission data, as recited in claim 13.
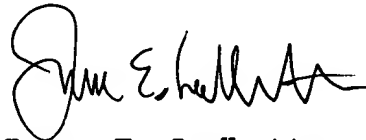
Accordingly, Applicants submit that the combined teachings of Smith and Kamerman do not disclose or suggest the subject matter defined by claim 13. Therefore, allowance of claim 13 is warranted for these independent reasons.

Claim 18 similarly recites features distinguishing apparatus claim 13 from the applied references, but with respect to a method. For similar reasons these features distinguish claim 13 over the applied art, so too do they distinguish claim 18. Therefore, allowance of claim 18 is warranted.

In view of the above, it is submitted that this application is in condition for allowance and a notice to that effect is respectfully solicited.

If any issues remain which may best be resolved through a telephone communication, the Examiner is requested to telephone the undersigned at the local Washington, D.C. telephone number listed below.

Respectfully submitted,

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